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ABSTRACT

Five years of research findings on assessment and decision making for learning disabled (LD) students are summarized through 14 generalizations. the generalizations deal with five issues: which students to refer for psychoeducational evaluation; which students to declare eligible for LD services; how to plan specific instructional interventions for individuals; how to evaluate the extent to which pupils are profiting from instruction; and how to evaluate the effectiveness of particular instructional programs. Data supporting each generalization are described briefly. Among implications are the needs to consider alternative approaches, to adopt an ecological model of students' learning and behavioral problems in educational settings, and to spend more time and resources in teaching and instructing rather than in testing and labeling. (Author/CL)

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University of Minnesota

Research Report No. 100

GENERALIZATIONS FROM FIVE YEARS OF RESEARCH ON ASSESSMENT AND DECISION MAKING

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The Institute for Research on Learning Disabilities is supported by a contract (300-80-0622) with Special Education Programs, Department of Education. Institute investigators are conducting research on the assessment/decision-making/intervention process as it relates to learning disabled students.

During 1980-1983, Institute research focuses on four major areas:

- Referral
- Identification/Classification
- Intervention Planning and Progress Evaluation
- Outcome Evaluation

Additional information on the Institute's research objectives and activities may be obtained by writing to the Editor at the Institute (see Publications list for address).

The research reported herein was conducted under government sponsorship. Contractors are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent the official position of Special Education Programs.

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November, 1982

Abstract

Five years of research findings on assessment and decision making for LD students are summarized through 14 generalizations. The generalizations deal with the issues of (a) who to refer for psychoeducational evaluation, (b) who to declare eligible for LD services, (c) how to plan specific instructional interventions for individuals, (d) how to evaluate the extent to which pupils are profiting from instruction, and (e) how to evaluate the effectiveness of particular instructional programs. Data supporting each generalization are described briefly. The implications of the data-based generalizations are discussed.

Generalizations from Five Years of Research on Assessment and Decision Making

The Minnesota Institute for Research on Learning Disabilities is one of five federally funded learning disabilities research institutes supported by a contract from the U. S. Office of Special Education, Department of Education. When the original request for proposals was issued, included was the charge that each Institute would, within three to five years, develop empirically demonstrated effective interventions for students who were learning disabled.

In responding to the original RFP, we stated that we believed such an activity was at best premature. To know how to intervene with learning disabled students, we needed to know the specific nature of the students with whom the interventions would be employed. We pointed to the considerable variability at that time in the kinds of students receiving LD services in different settings; to the tremendous variability in criteria used by state and local education agencies in declaring students eligible for LD services, and to the fact that numerous effective interventions had been developed by the Child Service Demonstration Centers that served LD students. We stated our belief that the interventions developed by earlier projects and centers and found to be effective for learning disabled students were incapable of being generalized to other settings. We stated that personnel in the many child service demonstration centers had difficulty communicating their instructional interventions because they were serving different kinds of students under the same categorical label. We stated that it was our intent to engage in systematic research on the assessment and decision-making process, and

to try to improve the ways in which school personnel used assessment data to make decisions about students. Our interventions were to be limited to interventions in the decision-making practices of school personnel.

For five years now our research has focused on a set of issues in the assessment and decision-making process with students considered learning disabled. We consistently have defined assessment broadly as a process of collecting data for the purpose of making decisions about individuals, and we have studied five kinds of decisions educators make about students. Specifically, we have been concerned with how school personnel use assessment data to make decisions about (a) who to refer for psychoeducational evaluation, (b) who to declare eligible for LD services, (c) how to plan specific instructional interventions for individuals, (d) how to evaluate the extent to which pupils are profiting from instruction, and (e) how to evaluate the effectiveness of particular instructional programs. We have conducted our research at three levels: we have described current practice, we have developed alternative decision-making paradigms, and we have been field testing those alternative models to ascertain the social, political, and economic implications of their implementation. In this paper we report a series of generalizations from our descriptive and developmental efforts. Some field testing of alternative approaches is still going on; thus, we cannot yet report the results of that effort.

Throughout our research on assessment and decision making we have used multiple methodologies, studying the processes from multiple

perspectives. Specifically, we have used (a) computer simulations of the decision-making process, (b) record searches, (c) psychometric comparisons of LD, low achieving, and normal students, (d) questionnaires and surveys, (e) ethological observation and videotapes of placement team meetings, (f) longitudinal case studies of individual students as they went through the assessment process, (g) direct observation of both students and classroom ecology in LD and regular classes, and (h) experimental-control comparisons.

Our research has led to the publication of more than 100 research reports and monographs. It is our purpose here to summarize our efforts by stating generalizations from the research. We recognize the dangers of simply stating generalizations without going into considerable detail on the research data that lead us to make those generalizations. Yet, generalizations can be made, and the generalizations lead to important implications for both training and practice. We will state 14 generalizations and briefly describe aspects of our research findings that lead us to make the generalizations. Whenever possible, references to journal articles are given in the text; otherwise, IRLD research report numbers are cited.

Generalizations

- The special education team decision-making process, as currently employed in public school settings, is at best inconsistent. Our efforts to document specifically what is happening in that process revealed some instances of what would be considered "good practice." However, in most instances, the process operated to verify problems first cited by teachers, and team efforts usually were directed toward what Sarason and Doris call a "search for pathology."

As we set out to study the placement team decision-making process for learning disabled students, we wanted to observe and videotape team meetings. We wanted to document specifically the ways in which team members used data to make decisions about students. We had incredible difficulty finding team meetings, or at least any facsimile of meetings representative of the typical description of team meetings. Rather, we found meetings to get ready for the meeting to get ready for the meeting. It is clear that seldom do team members sit down for the very first time with parents and describe, integrate, and discuss the implications for intervention of their respective assessment findings.

Most team meetings are characterized by round-robin presentation of test results. Each team member takes his or her turn and recites the findings on a series of tests administered to the student. The participants are for the most part those who have given tests to the student. Regular classroom teachers and parents participate very little in the process (Ysseldyke, Algozzine, & Allen, 1981). Our analysis indicated that teams seldom meet the criteria of effective functioning (Ysseldyke, Algozzine, & Mitchell, 1982). The team decision-making process is set in motion by a teacher's initial decision to refer a student, and teams serve primarily a function of verifying the existence of problems first observed and attended to by teachers. The team decision-making process is clearly test-oriented; team members appear to function nearly entirely under the assumption that it is their task to find out what is wrong with a student about whom a teacher believes something is wrong, and they use tests in

attempts to find problems. In the meetings we observed, emphasis was on finding internal causes for behavior evidenced by students, and we found that the more mildly handicapped a student was the more tests team members administered (though there was no relationship between the number of tests given and the actual decision reached; Algozzine, Ysseldyke, & Hill, 1982).

- Placement decisions made by teams of individuals have very little to do with the data collected on students. We were able to demonstrate that the decisions that are made are more a function of natually-occurring pupil characteristics than they are data based.

We studied the relationship between the extent to which the data presented at a team meeting supported a particular decision and the actual decision reached by the team. We found that the decisions made have little to do with the data presented (Ysseldyke, Algozzine, Richey, & Graden, 1982). Rather, the decisions that are made are more often a function of naturally-occurring pupil characteristics. We were able to demonstrate that sex, socioeconomic status, physical appearance, and reason for referral influence the decisions made by school personnel (Ysseldyke, Algozzine, Regan, & McGue, 1981). Our other investigations indicate that availability of services and the power that a student's parents hold in the school system also influence school decisions (Christenson, Ysseldyke, & Algozzine, 1982).

- Very many non-handicapped students are being declared eligible for special education services. When we provided decision makers with test information about students, and when all data indicated normal test performance, more than half of the decision makers declared the normal student eligible for special education services.

In our computer-simulated investigations of the decision-making process we presented decision makers with a statement that a student had been referred for either academic or behavior problems. The school personnel were allowed to review test data on the student. We controlled the data so that in all cases the data were indicative of normal behavior and normal performance. Yet, 51% of the decision makers declared the normal student eligible for special education services. Of those who said the student was eligible for services, the majority said the student was LD (Algozzine & Ysseldyke, 1981)

> • There currently is no defensible system for declaring students eligible for LD services. Given this, what we see happening is a series of efforts to increasingly sophisticate the assessment process (development of "new" formulas, neuropsychological assessment, etc.).

This generalization is based on the findings from several interrelated investigations. Significant numbers of normal students meet current state and local criteria for being classified LD. LD and low-achieving students cannot be differentiated accurately (Ysseldyke, Algozzine, Shinn, & McGue, 1982). Even experts cannot agree on the definition, incidence, prevalence, or criteria for LD. In a major national survey of experts' beliefs about LD, we found little concensus either conceptually or practically (Tucker, Stevens, & Ysseldyke, in press). The classification "learning disabilities" does not meet the criteria for a classification system. If there is one characteristic that LD students have in common it is low achievement. There are no characteristics or behaviors specific to LD; that is, there are no characteristics that students labeled LD evidence that are not demonstrated with equal frequency by non-LD students

(Algozzine & Ysseldyke, in press; Ysseldyke & Algozzine, in press).

- The identification of a student as learning disabled depends on what criteria are used. When we applied several commonly used definitions of LD to low-achieving students in regular classes, over three-fourths could be classified as LD by at least one definition. On the other hand, many school-identified LD students were not classified as LD by at least one criterion.

We searched the professional literature for operational criteria suggested for use in identifying LD students. We found over 42 definitional criteria. When we selected the 17 definitions most often used, and applied those definitions to different categories of students, we found some surprising results. First, more than 80% of normal students could be classified LD by one or more definition. Over 75% of low-achieving students met the criteria for being classified LD. Yet only 75% of the students labeled learning disabled met at least one set of criteria for being considered LD (Ysseldyke, Algozzine, & Epps, in press).

- At present, large numbers of students are failing to acquire academic and social skills. Some have been sorted out as eligible for learning disability services. Yet, there are ro reliable psychometric differences between students labeled learning disabled and those simply considered to be low achievers.

Psychometric evaluations of currently labeled LD students and low-achieving students were compared, and no reliable differences between groups in either individual test scores or in profiles of scores were found (Ysseldyke et al., 1982). In fact, there was an average of 96% overlap between scores for the two groups. Using existing measures and criteria, we could not differentiate between LD and low-achieving students.

- It is clear that the most important decision that gets made in the entire assessment process is the decision by a regular classroom teacher to refer a student for assessment. Once a student is referred, there is a high probability that the student will be assessed and placed in special education.

We conducted a national survey of Directors of Special Education and asked them how many students had been referred during a three year period, how many referred students had been tested, and how many tested students had been declared eligible for special education services (Algozzine, Christenson, & Ysseldyke, in press). From three to six percent of the school-age population is referred each year for psychoeducational evaluation. Of those referred, 92% are tested. Of those tested, 73% are declared eligible for special education services. While one explanation for the large numbers of students declared eligible for services is that teachers are extremely accurate in their referrals, it is more likely that this finding highlights the over-identification of students as handicapped. When teachers were asked to identify the cause of problems evidenced by students, 94% attributed those problems to either within-student causes or to home and family problems (Ysseldyke, Christenson, Pianta, & Algozzine, in press). When we asked these teachers what they expected to gain from referral, they told us they wanted testing and placement. Ten percent of referring teachers assigned an explicit label (e.g., ED, LD) to the student at the time of referral. Our research on referral indicates that teachers' reasons for referral generally are stated in vague and nebulous terminology. When asked the extent to which they had intervened directly prior to referral, the majority of teachers indicated that they had made no systematic effort to alter

instructional plans for the student (Ysseldyke, Pianta, Christenson, Wang, & Algozzine, in press). When we investigated the specific determinants of referral, we found that teachers tend to refer students who bother them. This finding is idiosyncratic: different teachers may refer different kinds of students because different kinds of behaviors bother them (Algozzine, Ysseldyke, & Christenson, in press).

- Students spend only about 45 minutes engaged in academic responding during a typical school day while they spend about 140 minutes in task management responding. On the average, students engage in silent and oral reading for only 10 minutes each day. Even though LD students receive more individual instruction, they do not spend any more time engaged in active academic responding than do regular students.

Our early research on team decision making and on referral practices led us to look very closely at the specific kinds of behaviors demonstrated by LD and non-LD students in regular and resource room settings. Specifically, we were concerned with the amount of time that students were engaged actively in responding to academic materials. Systematic observations conducted in over 100 elementary classrooms for over 260 entire school days revealed that, overall, students spend only a small portion of the school day, about 45 minutes, actively engaged in academic responding (72, 73, 78, 79, 86). Of major interest was the finding that although LD students received more time in individual instruction than did non-LD students, the LD students did not spend any more time actively engaged in academic responding. In at least one important area, time spent responding to academic material, there are no significant benefits for LD students.

- There are technically adequate norm-referenced tests that can be used to make decisions about students. For the most part, these are now restricted to the domains of intelligence and academic achievement. There are no technically adequate measures of specific processes and abilities. There are no technically adequate measures of personality. Most tests currently used in the psychoeducational decision-making process are technically inadequate.

Studies of the kinds of assessment devices currently used in the process of making decisions about students indicated that for the most part diagnostic personnel use technically inadequate tests (Ysseldyke, Algozzine, Regan & Potter, 1980; Ysseldyke, Regan, Thurlow, & Schwartz, 1981). It has been demonstrated that the kinds of tests currently used most often have limited utility for instructional planning (Thurlow & Ysseldyke, 1982). Yet, when students are referred, considerable time, effort, and money go into the administration of large numbers of tests to those students.

- Those who advocate "clinical judgment" in making eligibility decisions about students are going to have to rethink their position. Given profiles of scores on psychometric measures, we found that psychologists and special education teachers were able to differentiate between low-achieving students and students labeled learning disabled with only 50% accuracy. Naive judges, who had never had more than an introductory course in education or psychology, evidenced 75% accuracy.

Some professionals in the field of learning disabilities argue that LD students cannot be identified by individual test scores, but that they, given the pattern or profile of scores that students earn, can use clinical judgment to identify those who are learning disabled. We asked a group of school psychologists, LD teachers, and undergraduates who had never had a course in education or psychology to review test information on 18 students. Some of the students met

federal criteria for being called LD, others did not. The accuracy in teachers' and psychologists' judgments was about 55%. The accuracy for the undergraduates was 75%. Although the school psychologists generally were inaccurate in differentiating between LD and non-LD students, they stated that they had a high degree of confidence in their judgments (Epps, Ysseldyke, & McGue, in press).

- Curriculum-based measurement is technically adequate for monitoring and evaluating progress on IEP goals. Performance in reading, spelling, and written expression can be measured validly and reliably in as little as 1 to 3 minutes. Simple curriculum-based measures of reading, spelling, and written expression also are sensitive to short-term and long-term changes in student performance. The use of such simple measures provides a viable alternative to lengthy assessments currently administered.

One of our main goals was to investigate an alternative method of decision making. One primary concern was to examine an alternative data base, which uses the curriculum rather than commercially produced tests, to provide educators with technically adequate information to make decisions. Specifically, we wanted to identify measures that teachers could use on a routine basis to monitor student progress and evaluate the effectiveness of various instructional techniques. We wanted these measures to be available to teachers in multiple forms, easy to administer, and inexpensive. But, first of all, we wanted these measures to be reliable, valid, and sensitive to growth. In order to be maximally useful to teachers, the measures must accurately reflect true student progress.

We were able to identify simple measures that yielded high correlations with commercial tests in reading (Deno, Mirkin, & Chiang, 1982), spelling (21), and written expression (Deno, Marston, & Mirkin,

1982). These high correlations were replicated over and over again in other studies (56, 57, 88, 94). Therefore, we felt confident that we had identified measures that reflected student performance accurately. We also looked at test-retest reliability, parallel-form reliability, and interscorer agreement (58, 59, 94). After many studies, we were satisfied that we had identified simple measures in three academic areas that would yield consistent information about student performance, be scored reliably, and be available in multiple parallel forms.

Sensitivity to change is an essential characteristic because use of the simple measures in evaluating the effectivness of different instructional techniques requires that they detect and index small fluctuations in student performance. Students have been measured at three points during the school year and at weekly intervals over five and ten-week periods (49, 71, 75). In both long-term and short-term studies, the simple measures have been useful in depicting a student's progress over time.

Overall, the simple measures seem as reliable and valid as commercially produced tests. Moreover, the simple measures are readily available in multiple forms, quick to administer, and, therefore, very useful for on-going decision making about instructional effectiveness.

- Student performance can be improved by applying data utilization strategies. Students make more progress when their performance data are used systematically and teachers are satisfied with the procedures. Collecting more frequent data on student performance leads to more accurate decisions.

We looked at students' progress when teachers used their own

judgment to decide when to try alternative instructional techniques compared to when teachers followed systematic rules for using the data. We also studied different schedules of data collection to determine the extent to which daily or weekly measurement was optimal. We found that students make better progress when teachers apply specific data utilization strategies than when using teacher judgment alone (Mirkin, Deno, Tindal, & Kuehnle, in press; 10, 64). Teachers have used several different data utilization strategies, all of which yielded greater student performance gains than did teacher judgment alone. No single strategy has emerged as more successful than the others, although teachers prefer applying the simplest rules (64).

However, we also found that teachers were leery of using frequent measurement due to the amount of time required by the procedures (67). But, an independent evaluation team verified that school districts using the procedures are happy with them. Positive comments about our system included:

(1) They believed the system eliminated much of the jargon, ambiguity, and vague descriptions once found in IEPs.

(2) They were more confident that the system meets the real intent of the law.

(3) They noted that their own testing is now relevant to the instruction being provided in the classroom.

(4) They were confident in the reliability of their test, making decisions easier and meetings shorter.

(5) Their testing was more meaningful because a student is compared with peers from his/her own school and grade level.

(6) They believed students were more aware of their own progress because of the frequent charting required by the data-based system. This charting also increased the motivation of teachers and students toward reaching goals and objectives.

(7) They were more confident of their ability to measure the effectiveness of their teaching strategies with any particular student. The system notifies a teacher when to change his/her current intervention.

(8) The system made writing IEPs much easier.

(9) They were confident because the system meant current information always was available on any special education student's progress.

Teacher satisfaction also was indicated by over 50 teachers who had implemented the measurement procedures for at least a four-month period. They were highly positive about the system; the vast majority indicated that they would continue to use the system. In fact, approximately 90% of these teachers said that the procedures were helpful in developing IEPs and goals, measuring progress, communicating to parents, staff, and students, and in deciding when to change instruction.

We also have found that although daily measurement is optimal, teachers can make satisfactory decisions on the basis of data collected three times a week (61). However, data collected less frequently (i.e., once a week) do not provide enough information for making good decisions about instructional effectiveness. Thus, it appears that if teachers collect student performance data three times a week, and apply data utilization rules to these data, they can improve a student's rate of progress.

In order to determine how much time teachers required to carry out these measurement procedures, we taught teachers to time themselves preparing for measurement, giving directions, and scoring and graphing the data. We found that initially teachers required considerable time (3 1/2 minutes per task) to conduct measurement, but

with practice and systematic attempts to increase efficiency, they could significantly reduce the time required (63). In fact, after using these measures for seven months, teachers could prepare for, give directions, and score and graph each task within an average of one minute (53).

- Little training is necessary to train teachers to measure student performance. However, it is somewhat more difficult to train teachers to evaluate student performance data and make educational decisions based on the data.

Basically, our program modification system has two components. One component, which we call measurement, consists of the establishment of a measurement system and the on-going collection of data. The second component is the systematic use of the data for judging intervention effectiveness and improving student performance. We have used a variety of formats to train teachers to become proficient in both components. We have directly trained teachers via: (a) a week-long workshop prior to start-up in the fall and semi-weekly workshops throughout the school year (63); (b) a self-instructional manual plus four workshops (64); and (c) training of district personnel who in turn directly train teachers using the self-instructional manual (88, 98). Regardless of the training format, we have had similar results. Teachers become very proficient at establishing goals and objectives, setting up graphs and a measurement system, and conducting routine measurement. However, teachers find it more difficult to use the data systematically. We found that they seldom make changes in the students' instructional programs, and when changes are made, they are typically either unclear or too

inconsequential to make any real difference in the students' performance. These results have led us to believe that we need to use simple strategies of data utilization, train teachers to share their students' charts with colleagues and provide feedback to each other, and facilitate the use of a greater variety of instructional techniques.

- Clear and consistent differences exist between the performance of learning disabled resource program students and regular class students on one-minute samples using simple measures of reading, spelling, and written expression. Given that these measures reliably differentiate students, they also are useful for referral and assessment decisions.

Although the simple measures were developed to make decisions about instructional effectiveness, they also have been applied successfully to identification decisions. For the same group of LD and low-achieving students for which no psychometric differences were found, practical and significant differences were found on the simple measures (71). In fact, in a later study, these measures were able to reliably differentiate among LD, Title I, and non-LD students.

The simple measures also have been used as an alternative to traditional referral and assessment procedures (75). First, we contrasted a traditional screening and referral procedure with a procedure using weekly measurement of student performance in reading, writing, and written expression over a 10-week period. The numbers of students referred by the two methods were similar. However, the alternative method led to a more even distribution of males and females and reduced teacher bias in regard to females with behavior difficulties.

One school district has used discrepancy between target and peers on the simple measures as the sole indicator of eligibility for special education services. Preliminary findings (89) suggest that this is a viable alternative and does not substantially change the number of students served in special education.

Implications

The major findings of our research over the past five years lead to several implications for improvements in current assessment and decision-making practices. The goal of the Institute in this final funding year is to comprehensively summarize all research findings and derive implications for educational policy. Preliminary indications of important implications from the research are discussed briefly here; in-depth discussions of policy implications and suggested alternatives are one focus of efforts over this year.

It is clear that there are significant problems in current assessment and decision-making practices. The special education decision-making process is one in which a student is referred, often for vague and subjective reasons, automatically tested, often with technically inadequate devices, a team meeting is held in which the student usually is placed in special education, and decisions are made relying less on data than on subjective teacher or student variables and relying on inconsistent and indefensible criteria. It is clear that we must consider alternatives to this situation, with the main goal being improved services to students experiencing difficulty in school. The extent to which students are benefiting from current practices is questionable.

It is clear that many students are experiencing difficulty in school, and these students and their teachers need services to facilitate student learning and adjustment in school. The assumption that students and teachers are best served by student placements in special services must be questioned, and alternatives to this service delivery system must be examined. By perpetuating the current system and its problems, we are avoiding the responsibility to challenge, question, and change practices that are of questionable utility at best and inequitable to students at worst.

One implication for an alternative to current practices is to implement classroom-based interventions at the point of referral; rather than the current practice of referral leading to placement, the process would be from referral to intervention. A referral should not mean that a child is automatically tested and placed, as current research indicates. Referral should not be a one-way street to special education. The focus of efforts when a student is exhibiting a problem should be to help the student and teacher in the least restrictive setting and to provide appropriate intervention strategies, ones that systematically are attempted before a consideration of special services eligibility is made. A model of providing interventions instead of automatic testing and placement is more parsimonious in dealing with problems in the most relevant and appropriate setting. Existing personnel such as school psychologists could more effectively be used to provide consultation rather than testing at the point of referral. The IRLD is investigating the use of this type of referral-intervention system.

A second implication of the research is that time and resources would be spent more appropriately in teaching and instructing rather than in testing and labeling. Current practices include elaborate testing and diagnosis, both of which are of questionable utility to teachers instructing students. Assessment should be a process of collecting instructionally relevant information to facilitate improved teaching. The view of assessment should be broadened beyond "testing" to include a comprehensive process of data gathering that is curriculum and classroom based. We think that the simple, curriculum-based measures described earlier are an example of assessment that is relevant to instructional planning.

Related to this implication is the need for adopting an ecological model of students' learning and behavioral problems in educational settings. Current research demonstrates that teachers attribute school problems to internal child causes. Student learning and behavior problems are viewed more appropriately in an ecological perspective that considers the contribution of child variables, home variables, classroom variables, and instructional variables to a student's problem. The adoption of an ecological perspective in assessing student problems would lead to more ecologically sound and instructionally relevant interventions.

Another major implication of the research is the need to consider alternative approaches given the significant problems of current practices. One clear and pragmatic alternative is to devise different special services delivery systems in which students who are served are those who are experiencing the most severe learning and behavior

problems. The Minnesota Institute is involved in implementing such an alternative delivery system, and efforts are continuing this year to propose alternative approaches and their implications.

Research on the team decision-making process clearly indicates the need for awareness and training in effective team functioning. Efforts should include incorporating full and meaningful participation of parents and regular classroom teachers, appropriate use of assessment information, and applying procedures for effective team functioning. Decision-making teams should function more as resources to develop instructional interventions rather than serving to confirm the existence of teacher-perceived student problems.

Other important implications include the application of procedures that are demonstrated to be effective in instructing students. For example, one direct, simple area for instructional improvement derived from IRLD and other research is in the area of time engaged in learning. It has been demonstrated that direct instruction and engaged learning are related significantly to student achievement. The average of 45 minutes per day actively engaged in academic practice by both regular class and LD students could be significantly increased with probable significant effects on student achievement. Time engaged in learning is an easily alterable resource available to all students. Efforts currently are underway at the IRLD to develop and field test instructional strategies to increase students' opportunities to actively engage in learning.

Finally, and perhaps most important, we must raise major questions about the findings of those who have carried out research on

populations of school-identified LD students. After five years of trying to do so, we cannot describe, except with considerable lack of precision, students called LD. We think that LD can best be defined as "whatever society wants it to be, needs it to be, or will let it be" at any point in time. Who have other researchers studied? The 1% of the school-age population that some experts think are LD, or the 85% of the school-age population other experts think are LD? We think researchers have compiled an interesting set of findings on a group of students who are experiencing academic difficulties, who bother their regular classroom teachers, and who have been classified by societally-sanctioned labelers in order to remove them, to the extent possible, from the regular education mainstream.

The IRLD research has pointed to significant problems in current assumptions and practices in the area of assessment and decision making for learning disabled students. The challenge is now to address the problems, question the assumptions, and suggest alternative approaches for providing needed services to students having difficulty in school. It is time to question the current system of decision making and to focus efforts on changing the problematic, inconsistent practices instead of attempting to "fix" the problem student.

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Footnote

Bob Algozzine is also a Professor of Special Education at the University of Florida, Gainesville.

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